

**PATENTS ACT 1977**

APPLICANT                                      SeeReal Technologies SA

ISSUE    Whether patent application                                      04 July 2012  
    GB 1117175.8 relates to the same invention as  
    GB 2449357 B contrary to Section 18(5)

HEARING OFFICER                              Dr. Stephen Brown

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**DECISION****Introduction**

- 1 This decision relates to a single issue – do the claims in patent application GB1117175.8 (henceforth: “the divisional application”) relate to the same invention as those in GB 0808937.7 (henceforth: “the parent application”)? The divisional application was filed on 5<sup>th</sup> October 2011 and was subsequently published as GB 2482076. The parent application was granted on 3<sup>rd</sup> January 2012 as GB 2449357B. Both cases share the same priority date and the applicant for both is SeeReal Technologies SA.
- 2 The divisional application has not yet been granted because the applicant has been unable to persuade the examiner that there is not conflict between the claims of the parent and those of the divisional. The matter came before me at a hearing on Friday 4<sup>th</sup> May 2012 where the applicant was represented by Dr. Joachim Bradl along with Dr. David Bottomley of Origin Limited. The examiner Mr. Joe McCann, hearing assistant Mr. Joseph Mitchell and observer Miss Eleanor Wade were also present.

**The law**

- 3 Section 18(5) of the Patents Act states:

*Where two or more applications for a patent for the same invention having the same priority date are filed by the same applicant or his successor in title, the comptroller may on that ground refuse to grant a patent in pursuance of more than one of the applications.*

- 4 Furthermore, the Act requires that “invention” in section 18(5), and elsewhere, be understood with reference to section 125(1), which states:

*For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.*

- 5 Thus an invention is defined by the claims, interpreted in light of the specification as a whole. The phrase “for the same invention” in section 18(5) is regarded as embodying the long standing principle that the same monopoly should not be granted twice over.
- 6 Section 73(2) of the Act uses exactly the same phrase and it is generally accepted that the tests for determining whether or not two UK applications relate to the same invention under section 18(5) are the same as those for deciding whether a UK patent conflicts with a European Patent (UK) under section 73(2).
- 7 It is also generally accepted that these sections cover not only the situation where respective applications contain claims explicitly including all of the same features (including the case where these are claims dependent on quite distinct main claims) but also where the claims differ in their wording but their scope does not differ in substance.

## **The invention**

- 8 The invention relates to a communication system which allows two users to communicate using holographic reconstructions of three dimensional scenes. This is done over the internet using a ‘voice and holographic image over internet’ protocol.
- 9 The most recent set of claims was filed on 9<sup>th</sup> February 2012. There are 47 claims, three of which are independent. Claims 1 and 45 relate to holographic communication systems, claim 26 relates to a method of generating a holographic reconstruction. Claim 1 reads as follows:

*A communications system including a holographic display for a first user and a holographic display for a second user, the system operable to enable the two users to communicate with each other over the internet using real-time voice and holographic image over internet protocol, each user using their respective holographic display, wherein each holographic display is for generating a holographic reconstruction of a three dimensional scene (3D-S), each holographic display comprising a light source, a spatial light modulator (SLM) and an optical system illuminating the SLM, wherein reconstruction of each single object point of the 3D-S only requires a sub-hologram as a subset of the illuminated SLM, and wherein holographic calculations for encoding the subsets of the SLM with the sub-holograms are executed immediately as soon as single points in space are available after having been processed by a 3D pipeline.*

- 10 Claim 45 is identical to claim 1 except that it ends with the following additional text:

*...substantially as hereinbefore described with reference to, and/or as illustrated by, Figures 1 to 9, 11 to 25, and 27 to 34.*

- 11 Claim 45 thus falls entirely within the scope of claim 1. For simplicity, where the following discussion deals with claim 1, it can be taken to apply *mutatis mutandis* to claim 45. Claim 26 reads:

*A method of generating a holographic reconstruction of a three dimensional scene, made up of multiple discrete points, in a communications system including a holographic display for a first user and a holographic display for a second user, the system operable to enable the two users to communicate with each other over the internet using real-time voice and holographic image over internet protocol, each user using their respective holographic display, wherein each holographic display is for generating a holographic reconstruction of a three dimensional scene (3D-S), each holographic display comprising a light source, a spatial light modulator (SLM) and an optical system illuminating the SLM, wherein reconstruction of each single object point of the 3D-S only requires a sub-hologram as a subset of the illuminated SLM, the method comprising the step of:*

*encoding a hologram on a spatial light modulator.*

- 12 The claim set granted with the parent comprises 25 claims. Claims 1 and 13 are the most relevant to the matter in hand. They read:

*Claim 1: A communications system including a holographic display for a first user and a holographic display for a second user, the system operable to enable the two users to communicate with each other over the internet using real-time voice and holographic image over internet protocol, each user using their respective holographic display, wherein each holographic display is for generating a holographic reconstruction of a three dimensional scene (3D-S), each holographic display comprising a light source, a spatial light modulator (SLM) and an optical system illuminating the SLM, wherein reconstruction of each single object point of the 3D-S only requires a sub-hologram as a subset of the illuminated SLM.”*

and:

*Claim 13: The communication system of any previous claim, such that sequential holographic transformation of points in three-dimensional space is performed by way of extending a 3D pipeline of graphics cards with a holographic calculation pipeline.*

- 13 To my mind there are three comparisons I have to make to determine whether or not the parent and divisional relate to the same invention. These are claim 1 of the divisional versus claim 1 of the parent; claim 1 of the divisional versus claim 13 of the parent, and claim 26 of the divisional versus claim 1 of the parent. I will now take each of these in turn.

### Claim 1 of the divisional versus claim 1 of the parent

- 14 It can be seen that claim 1 of the divisional application contains all of the features of claim 1 of the parent. In addition, claim 1 of the divisional also contains the additional features of the holographic calculations for encoding the subsets of the SLM with the sub-holograms being executed immediately as soon as single points in space are available after having been processed by a 3D pipeline. Thus, if claim 1 of the parent application is considered to relate to 'A' then claim 1 of the divisional application can be considered to relate to 'A+B', where 'B' is the additional features just identified in the immediately preceding sentence.
- 15 This language is deliberately reminiscent of that used in *Arrow Electric Switches Ltd's Applications*<sup>1</sup>. Though this decision was made by the Patents Appeal Tribunal under Rule 12 of the Patents and Designs Act 1907-1942 it is still generally held to be good law with respect to section 18(5) of the current Act. In this case, there was a parent application that related to a novel electric switch ('A') and a divisional that related to means ('B') for operating an electric switch, said means being responsive to circuit overloading. Claim 2 of the parent related to the novel switch plus the operating means ('A+B'). There was no such combination in the divisional. Morton J. decided that such a combination of claims was allowable, stating (page 3, lines 15 to 18, of the RPC<sup>1</sup>) that:
- I think that Rule 12 may fairly be construed as meaning that there must be no claim to B per se in the parent specification and that if there is a claim to A plus B in the parent specification, there must be no claim to A plus B in the divided specification.*
- 16 Morton J. reiterated this conclusion stating (page 4, lines 1 to 10, of the RPC<sup>1</sup>):
- It seems to me quite reasonable that the applicants should be able to claim the switch, and the switch used in combination with the operating means, in their parent specification whilst claiming the operating means, but not the operating means used in combination with the switch, in their divided specification.*
- It is true that if patents are granted on both specifications in their present form, and if any member of the public uses the switch plus the operating means, he will be liable to an action for infringement under two separate patents. The same result would have followed even if claim 2 had been struck out of the parent specification, and if a man chooses to use two patented articles without any licence, I think he has brought his fate upon himself if he exposes himself to an action under two separate patents.*
- 17 Naturally, Dr. Bottomley asserted that the same reasoning should be followed in this case. However, I note that in the current case neither application claims feature 'B' in isolation. On this point, Dr. Bottomley pointed me at the Office's

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<sup>1</sup> Arrow Electric Switches Ltd's Applications 61 RPC 1 (1944)

decision in *Kimberley-Clark Worldwide Inc's Patent*<sup>2</sup>. While this case was decided under sec. 73(2), it is generally accepted that the same tests for conflict apply to sec. 18(5).

- 18 This case concerned a "Disposable absorbent garment" or nappy. Here the hearing officer, S. Probert, identified a waistband comprising several portions with different elastic properties as feature 'A'. He then identified a method of attaching waistbands by inhibiting their elastic properties, attaching them to the rest of the garment, then using heat to reactivate their elastic properties, as feature 'B'. The GB application related to feature 'A', the equivalent EP(UK) related to 'A+B'. For some reason, feature 'B' was not claimed in isolation in either patent. Ultimately, the hearing officer decided that the two applications did not conflict.
- 19 This certainly bears a marked resemblance to the situation with the current application. However, I note that the key reason that the hearing officer decided as he did was that the European patent had been opposed and been amended to features 'A+B'. His reasoning is perhaps best summed up in paragraphs 37 & 38 of his decision, where he states:

*Before the opposition proceedings, the scope of the European patent was, for present purposes, the same as the scope of the UK patent. It seems to me that if there is no difference **in substance** between the claims of the UK patent and the European patent (after opposition), then it is unlikely that the difference would have been sufficient to avoid cancellation of the European patent during the opposition proceedings. In using the word 'unlikely', I recognise that there is an element of uncertainty involved in this reasoning; not least because I do not know anything about the opposition proceedings other than the wording of the European patent before and after opposition.*

*Nevertheless, the balance of probabilities lies in the patentee's favour, and I am reluctant to order revocation of a patent from the register when there is doubt as to the justification for so doing. It is well established that in ex parte proceedings such as these, the applicant (or in this case the patentee) is entitled to the benefit of any doubt.*

- 20 Unlike the hearing officer in *Kimberley-Clark*<sup>2</sup> I do not have the outcome of an EPO opposition to guide me. Additionally, in that decision, feature 'B' could have been claimed in its own right. In the current case it is arguable whether 'B' could exist separate of the features of 'A'. However, the decision in *Kimberley-Clark*<sup>2</sup> does indicate that 'A' in one application and 'A+B' in another can be allowable in principle. To my mind, the key question is: does the addition of 'B', in this case, result in an invention with a significantly different scope to 'A' alone?
- 21 I think this question can be usefully subdivided into two more: (i) Are the additional features of 'B' already present, albeit not explicitly so, in claim 1 of the parent application?, and if they are not, (ii) Do they amount to a substantial

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<sup>2</sup> Kimberley-Clark Worldwide Inc. (BL O/279/04)

difference in scope between the respective claim 1's of the parent and divisional applications?

- 22 With regards to question (i), I am reminded of the Office's decision in *Maag Gear Wheel and Machine Co Ltd's Patent*<sup>3</sup>. That decision was under section 73(2) and concerned a 'journal' bearing for a shaft. Each of the features contained in claim 1 of the UK patent was present, in slightly different language, in claim 3 of the EP (UK). However, claim 1 of the EP (UK) (to which claim 3 was appendant) included additional "pad geometry" features not present in the UK claims. The hearing officer, Mr. M. F. Vivian, stated (at page 576, line 43, of the RPC<sup>3</sup>), that:

*Turning to claim 1 of the U.K. patent I observe that it is not limited to the pad geometry of claim 1 of the European patent, but that pad geometry is the only construction described and illustrated in the U.K. patent. Following Arrow Electric Switches decision<sup>1</sup>, I must construe claim 1 of the U.K. patent as protecting a journal bearing including that pad geometry. Accordingly I find claim 1, and consequently claims 2-5 of the U.K. patent to be directed to the same invention as that claimed in claim 3 of the European patent.*

- 23 In the current case there is one key distinction from *Maag*<sup>3</sup> - the application as a whole teaches more than one method for executing the holographic calculations. In addition to the method of claim 1 of the divisional application, it also refers to prior art methods. For example, lines 3-6 of page 38 of the parent application as filed state:

*In prior art methods, the holographic transformation and encoding process can only begin when the results (the two memory sections) are available in their entirety, as access to both memory sections is required for this. This leads to a time delay of one video frame.*

- 24 Clearly this is very different to "the holographic calculations being executed immediately as soon as single points in space are available" as per feature 'B' of the current case, as identified above. While there is no doubt that 'B' is the approach preferred by the applicants, it is far from the only possibility and, more to the point, it is not the only one disclosed in their application. To construe claim 1 of the parent as limited to feature 'B' would be, in my opinion, unduly constrictive and counter to the teachings of *Maag*<sup>3</sup>.

- 25 At the hearing Dr. Bottomley argued that any claim construction should be performed with reference to *Kirin-Amgen*<sup>4</sup>. He was of course completely correct to do so. Thus in construing claim 1 of the parent I will seek to interpret the claim through the eyes of a person skilled in the art and what they would have understood the patentee to be using the language of the claim to mean.

- 26 It is my opinion that such a person would appreciate that the focus of claim 1 of the parent application was that the reconstruction of each single object point of a 3D scene only required a sub-hologram as a subset of the illuminated spatial

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<sup>3</sup> *Maag Gear Wheel and Machine Co Ltd's Patent* [1985] RPC 572

<sup>4</sup> *Kirin-Amgen Inc v Hoechst Marion Roussel Ltd* [2005] RPC 9

light modulator. While, from reading the description, said person would know that this in turn allowed the holographic calculations for encoding said subsets to be executed immediately as soon as single points in space were available, they would appreciate that this additional feature was only a preferable, not an essential, feature of the invention. Thus, claim 1 of the parent application cannot be construed as implicitly limited to *immediate execution* of holographic calculations. Consequently, I believe that claim 1 of the parent application cannot be construed as implicitly having the same scope as claim 1 of the divisional application.

27 I can thus move on to question (ii): Do the additional features of 'B' amount to a substantial difference in scope between the respective claim 1's of the parent and divisional applications?

28 I am forced to conclude that they do. The features of claim 1 of the parent (i.e. 'A') were sufficiently novel and inventive for this Office to grant that application in its own right. The additional features of claim 1 of the divisional (i.e. 'B') seem to me to offer a distinct improvement on this invention. Specifically, the requirement that the holographic calculations are *executed immediately* as soon as single points in space are available after having been processed by a 3D pipeline, offers a significant increase in speed and efficiency over the system claimed in the parent application and the prior art systems discussed in its description.

29 While the description of the parent application includes this feature it is what is claimed that matters, as section 125(1) makes clear. As reasoned above, claim 1 of the parent is broader in scope and does not inherently include the improvement of feature 'B'. While the applicants could have included feature 'B' as a dependent claim in the parent, the fact that they did not do so does not seem sufficient reason alone to deny them protection for the improved system by way of a divisional application.

30 The fact that if feature 'B' had been in the parent it would have been a perfectly acceptable dependent claim does not automatically mean that it must conflict if present in a second application. Put another way, the absence of plurality does not necessarily mean the presence of conflict. Section 14(5)(d) of the Act states:

*The claim or claims shall –*

....

*(d) relate to one invention or to a group of inventions which are so linked as to form a single inventive concept*

31 The Act thus recognises that one application may acceptably contain several different inventions so long as they fall within the same inventive concept. This is in contrast to Section 18(5) which, as quoted above, is concerned with whether or not the *same invention* is present in two or more applications. Thus it seems to me that it is entirely possible for features 'A' & 'B' to fall within the same inventive concept while relating to different inventions.

- 32 Such a conclusion is reinforced by the decision in *Optinose*<sup>5</sup>. This case under section 18(5) concerned a nasal inhaler. The parent included a claim to a delivery device that prevented operation until a nosepiece was in place. The divisional was more specific, with a claim to an interlock mechanism which kept a particular valve closed when the nosepiece was not present. The hearing officer, Mr. P. Thorpe, acknowledged that the divisional claim fell entirely within the, much broader, scope of the parent claim. Nonetheless he concluded that the two did not relate to the same invention.
- 33 At the current hearing there was also some discussion concerning whether or not the additional features of claim 1 of the divisional ('B') constituted an inventive step over the system claimed in the parent ('A'). Dr. Bottomley argued that this was not a valid consideration since nowhere did the Patents Act link section 18(5) to any of the sections dealing with inventive step. I agree with Dr. Bottomley on this point, the wording of section 18(5) says only that I may refuse grant if two applications relate to the same invention. There is no mention of, or reference out to, inventiveness. I also note that none of the case law has resorted to using some form of inventive step test as a proxy for deciding issues under either section 18(5) or section 73(2).
- 34 I am mindful that the purpose of section 18(5) is to stop two granted patents for the same invention. So it is to that purpose alone that I return. As reasoned above, I believe that there is a substantial difference between claim 1 of the divisional application and claim 1 of the parent application. I thus decide that these two claims do *not* relate to the same invention and so do not fall foul of section 18(5).

### **Claim 1 of the divisional versus claim 13 of the parent**

- 35 Claim 13 of the parent, which is appendant upon claim 1, adds the feature that the sequential holographic transformation of points in three-dimensional space is performed by extending a 3D pipeline of graphics cards with a holographic calculation pipeline. Clearly this narrows the scope of the parent's invention and it is arguably more suggestive of the immediate execution of holographic calculations. The main purpose of a pipeline is that any one unit of it executes its calculations as soon as the previous unit provides it with data.
- 36 While Dr. Bottomley did not disagree with this general point, he did argue that the disclosure of a holographic calculation pipeline was not the same thing as the *immediate execution* of holographic calculations as soon as single object points in space are available. After reviewing the application's description, I am again minded to agree with him. While the skilled man would appreciate that the presence of a holographic calculation pipeline meant that data may be ordered and processed in a particular way, they would also understand that it does not go further than this. Specifically it does not necessitate that there is an *immediate execution* of calculations as soon as single object points are available.

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<sup>5</sup> *Optinose AS's Application* (BL O/026/12)



- 37 Following this reasoning, I find that claim 13 of the parent application does not relate to the same invention as claim 1 of the divisional application.

### **Claim 26 of the divisional versus claim 1 of the parent**

- 38 Claim 26 of the divisional application differs from claim 1 of the parent application in two respects. Firstly, it is to a *method* of generating a holographic reconstruction used in a communications system identical to the system of claim 1 of the parent. Secondly, the method contains the additional feature of '*encoding a hologram on a spatial light modulator*'.

- 39 With regards to the first difference, Dr. Bottomley argued that even if claim 26 of the divisional is regarded as no more than the corresponding method claim to the system claim of claim 1 of the parent then that still constitutes an allowable difference under sec.18(5). On this point he directed me to the court of Appeal's decision in *Marley Roof Tile Co. Ltd's Patent*<sup>6</sup>. In this decision under section 73(2), claim 1 of the UK patent related to concrete articles made of a particular composition and having particular qualities whilst claim 8 of the EP(UK) related to such concrete articles, but produced by a particular process claimed in claim 1. On page 241, lines 47 to 50, of the RPC<sup>6</sup> Balcombe LJ held that:

*Claim 1 of the UK patent covers (a) articles made by the particular process covered by the European patent and (b) articles made by any other process. On that basis claim 1(a) of the UK patent is for the same invention as claim 8 of the European patent.*

- 40 However this was not the aspect of the decision that Dr. Bottomley wished to stress. Rather he emphasised that the Court of Appeal had not overturned the High Court with regards to claim 1 of the UK patent (to a product) not conflicting with claim 1 of the EP(UK) (to a process). Dr. Bottomley argued that this is very persuasive of the idea that you may have a product claim in a granted UK patent and a corresponding method claim in a divisional UK patent.

- 41 I am afraid I am not persuaded by this line of reasoning. In my opinion, what *Marley*<sup>6</sup> teaches us is that a claim to a product and another to *the same* product as produced by a specific process will conflict. The reason why the respective claims 1's in *Marley*<sup>6</sup> were not held to conflict was because they related to very different inventions, namely concrete articles of a particular composition and a process for producing concrete articles of a variety of compositions. This conclusion is reinforced by page 240, lines 40 to 45, of the RPC<sup>6</sup>, where Balcombe LJ states that:

*How then should section 73(2) be construed? It seems to me that the obvious purpose of the sub-section is to enable the Comptroller to prevent there being in existence two patents for the same invention, having the same priority date, and where the applications for both patents were filed by the same applicant,*

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<sup>6</sup> *Marley Roof Tile Co. Ltd's Patent* [1994] RPC 6

*and this irrespective of the fact that other linked inventions may be included in the claims of either patent.*

- 42 Dr. Bottomley also argued that system claims and method claims must have subtly different scopes otherwise why would patent attorneys include both types of claim in an application? While I agree that this is indeed standard practice, how people choose to write their claims is not, in itself, sufficient proof of a difference in scope.
- 43 I am afraid that I cannot see a difference in substance between a system claim and a method claim that simply mirrors the same steps to achieve exactly the same outcome. In this case, they are two sides of the same coin, using different forms of language to describe the same invention.
- 44 Moving on to the second difference, Claim 26 of the divisional differs from claim 1 of the parent by '*generating a holographic reconstruction by encoding a hologram on a spatial light modulator*'. Page 1, lines 29 to 31, of the description of the divisional application are very helpful in understanding this difference. They state:
- In the present document, the term "encoding" denotes the way in which regions of a spatial light modulator are supplied with control values to encode a hologram so that a 3D-scene can be reconstructed from the SLM.*
- 45 Reading the description of the divisional application in its entirety it appears to me that the only method of generating a holographic reconstruction disclosed is by encoding a hologram on a spatial light modulator. Thus if I am to be consistent with the decisions in *Maag*<sup>3</sup> and *Kirin-Amgen*<sup>4</sup> I must conclude that the 'second difference' is implicit in claim 1 of the parent. I believe that this is indeed the correct construction of claim 1 of the parent. Thus, construing claim 26 of the divisional and claim 1 of the parent I cannot see any difference in substance between them. Consequently, I conclude that they relate to the same invention.
- 46 Furthermore, upon reading claims 27 to 44 of the divisional application I note that they each depend on claim 26 and have a directly equivalent claim in the parent application. I thus find that claims 27 to 44 of the divisional application also fall foul of section 18(5).

## **Conclusion**

- 47 I have found that claims 26 to 44 of the divisional application relate to the same invention as the claims of the parent. I hereby give the applicants 1 month from the date of this decision, or to the expiry of the compliance period if sooner, to remove said claims from the divisional application or I will refuse it under section 18(5). I note that just such an amendment is suggested by the applicants under the title 'Auxiliary Request' in their skeleton arguments of 30<sup>th</sup> April 2012.

48 Once such amendments are effected the divisional application will be remitted to the examiner so he may complete his processing.

### **Appeal**

49 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

50 I note that the extended compliance date for this application was 16<sup>th</sup> May 2012. If the applicants wish to apply for a further retrospective extension to the compliance date they need to do so before the 16<sup>th</sup> July 2012.

**Dr. Stephen Brown**

Deputy Director, acting for the Comptroller